IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

LOCATION SERVICES IP, LLC,	)	
	)	
Plaintiff,	)	
	)	Case No. 2:15-cv-00435-WCB
v.	)	
	)	
JP MORGAN CHASE & CO. ET AL.	)	
	)	
Defendants.	)	
	)	

AMICUS BRIEF ON CLAIM CONSTRUCTION
BY GROUPON, INC.

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I.   INTRODUCTION

Groupon, Inc. is the defendant in Case No. 2:15-cv-01689-WCB, in which Plaintiff Location Services IP, LLC has asserted the three patents that are at issue in the instant case against Yahoo. Groupon submits this amicus claim construction brief to address three of the terms that Plaintiff and Yahoo are briefing. These three claim terms in one of the three asserted patents – U.S. Patent No. 6,202,023 (the "'023 patent") – should be treated as means-plus-function claim terms under 35 U.S.C. § 112(6) pursuant to the Federal Circuit's *en banc* decision in *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015). The parties in the instant case have not addressed these terms from this perspective. When the terms are treated as means-plus-function claim terms, the proper results are reached: for two of the three claim terms, identification of the corresponding structure for performing the recited function; and for the remaining claim term, recognition that the specification fails to disclose corresponding structure and that therefore the term is indefinite.

II.   STANDARDS FOR CONSTRUCTION OF MEANS-PLUS-FUNCTION TERMS

According to 35 U.S.C. § 112, "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

The Federal Circuit's *Williamson* decision recites the legal framework for identifying means-plus-function claim terms and their constructions. *Williamson* removed the "heightened bar to overcoming the presumption that a limitation expressed in functional language without using the word 'means' is not subject to § 112, para. 6" and set forth a new standard for such terms:

The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word "means," the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to "recite sufficiently definite structure" or else recites "function without reciting sufficient structure for performing that function." The converse presumption remains unaffected: "use of the word 'means' creates a presumption that § 112, ¶ 6 applies."

792 F.3d at 1349. As relevant here, the Federal Circuit held that a "distributed learning control module" is a means-plus-function claim term governed by § 112, para. 6. *Id.* at 1350-1351. The *en banc* discussion considered "nonce" terms that often take the place of the word "means":

"Module" is a well-known nonce word that can operate as a substitute for "means" in the context of § 112, para. 6. As the district court found, "'module' is simply a generic description for software or hardware that performs a specified function." Generic terms such as "mechanism," "element," "device," and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word "means" because they "typically do not connote sufficiently definite structure" and therefore may invoke § 112, para. 6.

Here, the word "module" does not provide any indication of structure because it sets forth the same black box recitation of structure for providing the same specified function as if the term "means" had been used.

Id. (emphasis added). The *Williamson* court went on to analyze the term "distributed learning control module" as follows:

The prefix "distributed learning control" does not impart structure into the term "module." These words do not describe a sufficiently definite structure. Although the "distributed learning control module" is described in a certain level of detail in the written description, the written description fails to impart any structural significance to the term. At bottom, we find nothing in the specification or prosecution history that might lead us to construe that expression as the name of a sufficiently definite structure as to take the overall claim limitation out of the ambit of § 112, para. 6. While Williamson is correct that the presence of modifiers can change the meaning of "module," the presence of these particular terms does not provide any structural significance to the term "module" in this case.

Id. at 1351 (emphasis added). As discussed further below, similar to the means-plus-function claim term at issue in the *Williamson* case, the three terms addressed in this brief recite only

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generic words and functional language tantamount to using the word "means" in a means-plus-function format subject to construction according to § 112(6).

III.   THE THREE CLAIM TERMS ADDRESSED BY THIS BRIEF ARE MEANS-PLUS-FUNCTION TERMS AND SHOULD BE CONSTRUED ACCORDINGLY

A.   "an ALI polling module"

Plaintiff's construction	Groupon's construction
A module, i.e., part or section of a computer program, that requests automatically generated location information	Subject to 35 U.S.C. § 112(6) Function: ALI polling, i.e., periodically requesting a location from an automatic location identifying (ALI) device Corresponding structure: the ALI polling algorithm as described in the '023 patent, column 32, lines 4-13, as depicted in Figure 20

Claim 2 of the '023 patent recites "an ALI polling module." The "ALI polling module" is a means-plus-function claim term. As in *Williamson*, the term "module" operates as the word "means." 792 F.3d at 1350-1351. In addition, the prefix "ALI polling" is purely functional language that does not impart structure into the term "module." *See id.* at 1350-1351 ("['Distributed learning control module'] is nonetheless in a format consistent with traditional means-plus-function claim limitations. It replaces the term 'means' with the term 'module' and recites three functions performed by the 'distributed learning control module.'"). In the '023 patent, "ALI" is a purely functional term, which stands for "automatic location identifying." '023 patent at 3:1-6; 3:16-20. The '023 patent then goes onto repeatedly describe "ALI functionality." *Id.* at 24:20-24; 26:14-16. In addition, throughout the specification, the word "polling" is used to describe the functionality of a module that is used to poll another device, the ALI device (1406). *Id.* at 27:12-15; 32:4-8.

Plaintiff's proposed construction acknowledges that the "ALI polling module" is a computer program. As a means-plus-function term, the corresponding structure is a computer

algorithm. *Williamson*, 792 F.3d at 1352 ("In cases such as this, involving a claim limitation that

is subject to § 112, para. 6 that must be implemented in a special purpose computer, this court

has consistently required that the structure disclosed in the specification be more than simply a

general purpose computer or microprocessor. We require that the specification disclose an

algorithm for performing the claimed function."). Like other cases, the corresponding algorithm

for the "ALI polling module" is identified in the specification in the form of a figure in the '023

patent. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1254 (Fed. Cir. 2005) ("Figure 9

illustrates how this algorithm is implemented [for the 'time domain processing means']."); *WMS*

Gaming Inc. v. International Game Tech., 184 F.3d 1339, 1349 (Fed. Cir. 2009) ("[T]he

structure disclosed for the 'means for assigning' limitation of claim 1 of the Telnaes patent is a

microprocessor programmed to perform the algorithm illustrated in Figure 6.").

The corresponding structure here is the ALI polling algorithm as described in the '023

patent, column 32, lines 4-13, as depicted in Figure 20:

> As indicated by step 2002, the process determines whether an ALI device 1406 is
> attached. If an ALI device 1406 is attached, control passes to step 2006. In step
> 2006 **the ALI device 1406 is polled** to retrieve location data therefrom. Next, in
> step 2010, the process determines whether the retrieved location data indicates a
> **change from the previous poll**. If step 2010 indicates that the location has not
> changed (i.e. the user is not moving), control passes to step 2004, where the
> process sleeps for a predetermined time period until **it repeats itself** in step 2002.

'023 patent at 32:4-13 (emphasis added). This algorithm is depicted as the polling process in
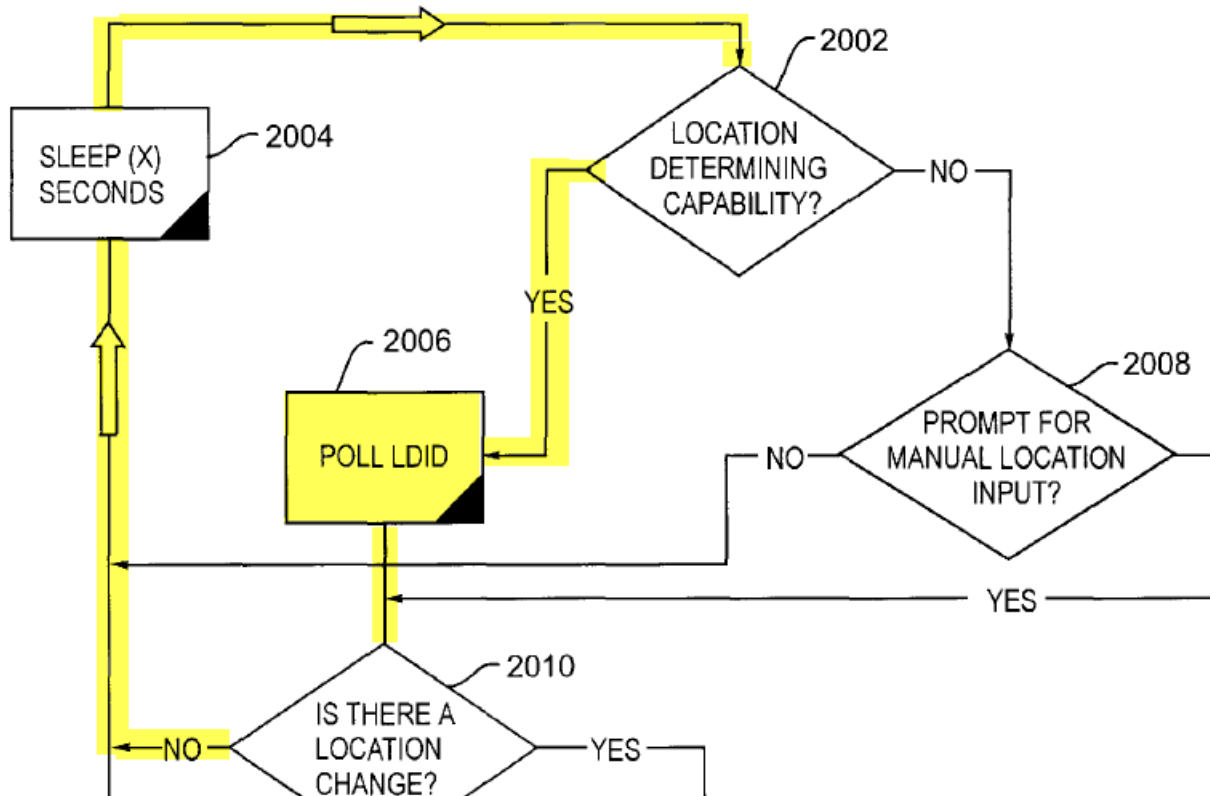
Figure 20, as excerpted below:

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Figure 20 is the preferred embodiment of the ALI polling algorithm. *Id.* at 5:41-44 ("FIG. 20 is

a flow chart depicting a method that can be used to implement the automatic location data

collection feature according to a preferred embodiment of the present invention."). Figure 20

depicts the polling as not merely a single step (2006) but a process whereby polling is conducted

periodically (by revisiting 2006 as in the depicted loop in Figure 20). *See Harris*, 417 F.3d at

1254-1255 ("[T]he district court erred in holding that claims 1, 2, and 33 can cover systems that

implement either a one-step or two-step process. The corresponding structure limits the 'time

domain processing means' to a two-step algorithm in which the processor calculates generally

nondiscrete estimates and then selects the discrete value closest to each estimate, or structural

equivalents thereof.'").

Plaintiff's claim construction brief focuses on two arguments. Both arguments fail when the "ALI polling module" is properly construed as a means-plus-function claim term according to Groupon's construction.

First, Plaintiff argues that "[t]he parties differ on whether this module must obtain location information directly from an ALI device. Nothing in the claim language or other intrinsic evidence requires this." Dkt. 118 at 10. To the contrary, as the specification states for the preferred embodiment, "the ALI device 1406 is polled." '023 patent at 32:4-13. Plaintiff argues that another part of the specification states that "the ALI polling module polls an ALI device module, not an ALI device itself." Dkt. 118 at 10 (citing '023 patent at 27:13-14). The cited part of the specification states that "[a]n ALI polling module 1508 is used to poll the ALI device module 1510." '023 patent at 27:13-14. This is a misstatement by the specification in referring to "1510" because it is clear from the rest of the specification that "1510" actually refers to a web server 1510. *Id.* at 26:39-52; 26:59-61; 27:7-11; 28:29-32; Fig. 15. It is clear from the context of the specification that the portion cited by Plaintiff is actually the ALI device interface of the ALI device itself. *Id.* at 27:12-17. The actual details of the ALI polling algorithm are provided in the specification citations provided by Groupon for the ALI polling module 1508.

Second, Plaintiff argues that "[t]he parties also differ on whether the polling module must 'periodically' request ALI information. Nothing in the intrinsic evidence requires this unwarranted limitation." Dkt. 118 at 10. Again, on the contrary, the specification requires this periodicity when the "ALI polling module" is properly construed as a means-plus-function term for a computer algorithm, as described and depicted in Figure 20. The Plaintiff argues that the specification describes Figure 20 as optional. *Id.* (citing '023 patent at 31:65-32:1 ("FIG. 20 is a

flow chart that is useful for describing a method that can be used in the Go2 Application program to implement a feature of the present invention for automatic location data collection.")). Nothing in the Plaintiff's cited portion says "optional." Rather, the specification elsewhere says Figure 20 is the preferred embodiment. '023 patent at 5:41-44 ("FIG. 20 is a flow chart depicting a method that can be used to implement the automatic location data collection feature according to a preferred embodiment of the present invention."). As the preferred embodiment for a computer implemented means-plus-function claim term, the relevant portion of the preferred embodiment – the disclosed algorithm which includes periodicity – must be the corresponding structure. *See Metrologic Instruments, Inc. v. Symbol Techs., Inc.*, 460 F. Supp. 2d 571, 626-627 (D.N.J. 2006) ("As will be explained later in the discussion pertaining to the control means, the 'high level flow chart' of Figures 7A and 7B represents an ***algorithm that constitutes part of the structure corresponding to the control means. As such, it is more than a mere preferred embodiment; it is a structural limitation of the claimed invention***.") (emphasis added).

The specification's disclosure of the corresponding algorithm as including periodicity is inherent to "polling" in computer science as periodically requesting. *Ex. A* (PRENTICE HALL'S ILLUSTRATED DICTIONARY OF COMPUTING (2d ed. 1995) at 475) (polling: "The process in which a computer ***periodically asks*** each terminal or device on a local area network if it has a message to send, and then allows each to send data in turn. The network manager can control the sequence and frequency of polling to allow some users longer transmission time. [ISO On a multipoint connection or a point-to-point connection, the process whereby data stations are invited one at a time to transmit.]") (emphasis added); *Ex. B* (QUE'S COMPUTER AND INTERNET DICTIONARY (6th ed. 1995) at 406) (polling: "In local area networks (LANs), a method for

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controlling channel access in which the central computer **continuously asks or polls** the workstations to determine whether they have information to send.") (emphasis added); *Ex. C* (THE COMPUTER GLOSSARY (7th ed. 1995) at 305) (Polling: "A communications technique that determines when a terminal is ready to send data. The computer **continually interrogates** its connected terminals in a round robin sequence. If a terminal has data to send, it sends back an acknowledgement and the transmission begins. Contrast with interrupt-driven, in which the terminal generates a signal when it has data to send.") (emphasis added).

B.   "user interface module"

Plaintiff's construction	Groupon's construction
Plain and ordinary meaning. No construction necessary. Alternatively, a module, i.e., a part or section of a computer program, that collects user information	Subject to 35 U.S.C. § 112(6) Function(s): "location prompting for accepting parameters for defining a particular location, wherein location prompting includes the step of prompting the user to specify whether said location information is based on a current or projected location; and user preference prompting for accepting one or more user preferences" (as recited in '023 patent, claim 2, at 34:54-60) Corresponding structure: the algorithm as described in the '023 patent, column 26, line 53 through column 27, line 1

The "user interface module" appears in claim 2 of the '023 patent. Claim 2 further recites two functions of this user interface module: "said user interface module comprises the steps of: location prompting for accepting parameters for defining a particular location, wherein location prompting includes the step of prompting the user to specify whether said location information is based on a current or projected location; and user preference prompting for accepting one or more user preferences." The functional nature of a recited "user interface" is consistent with the claim language quoted above which recites at least two functions of the "user interface module" rather than structure, like the format of the means-plus-function term at issue in *Williamson*. *See* 792 F.3d at 1350-1351 ("We begin with the observation that the claim

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limitation in question is not merely the introductory phrase 'distributed learning control module,' but the entire passage 'distributed learning control module for receiving communications transmitted between the presenter and the audience member computer systems and for relaying the communications to an intended receiving computer system and for coordinating the operation of the streaming data module.' This passage, as lengthy as it is, is nonetheless in a format consistent with traditional means-plus-function claim limitations. It replaces the term 'means' with the term 'module' and recites three functions performed by the 'distributed learning control module.'").

The term "module" operates as the word "means." *Id.* at 1350-1351. The recitation of a "user interface" as a prefix to the term "module" does not identify sufficient structure for performing the two recited functions. *See id.* at 1349 ("[Section] 112, para. 6 will apply if the challenger demonstrates that the claim term fails to 'recite sufficiently definite structure' *or else recites 'function without reciting sufficient structure for performing that function.'*") (emphasis added). The ordinary meaning of "user interface" does not impart structure to specifically perform the two functions recited in the claim term. *See Ex. A* (PRENTICE HALL'S ILLUSTRATED DICTIONARY OF COMPUTING (2d ed. 1995) at 611) (user interface: "The way a user interacts with a specific computing system or application using a specific device.") (emphasis added).

It must be noticed that the claim term is a "user interface module" not the structure of a "user interface." Even the Plaintiff's proposed construction acknowledges alternatively that the "user interface module" is a computer program, rather than the structure of a "user interface" alone. For the foregoing reasons, the "user interface module" is a means-plus-function term.

As a means-plus-function term, the corresponding structure is a computer algorithm. *Williamson*, 792 F.3d at 1352. The corresponding structure is the user interface algorithm as described in the '023 patent, column 26, line 53 through column 27, line 1:

> The User Interface (U/1) module 1506 is coupled with the web browser module 1502. ***The U/1 module 1506 is used to prompt the user for information*** including user preferences and category selections to be used for subsequent information requests, (i.e. on-line database queries) as described below. ***The U/1 module 1506 preferably performs at least some functions locally***. That is, at least some functions provided by the U/1 module 1506 are ***performed without a live connection to the server*** 1510. These functions are referred to herein as "local functions" and are described in detail below. For example, one local function provides a menu that is displayed which allows users to select from a list of predefined categories. In this example, users select a category of interest for formulating a database query that is to be used in a subsequent on-line session with the primary server 1314.

'023 patent at col. 26:53-27:1 (emphasis added).

Plaintiff's claim construction brief makes an argument that fails when the "user interface module" claim term is properly construed as a means-plus-function claim term according to Groupon's construction. Plaintiff argues that "As can be seen, 'location prompting for accepting parameters' and 'user preference prompting' are separate elements which claim 2 specifies for the 'user interface module' as claimed. Thus, it would be improper to impose these limitations on the term 'user interface module' term per se." Dkt. 118 at 7-8. At the same time, Plaintiff acknowledges that claim 2 is the "the only claim with the 'user interface module' term." *Id.* at 7. And claim 2 further refines the "user interface module" by reciting at least two functions of the "user interface module": "location prompting …" and "user preference prompting …" Thus, both functions must be performed by the "user interface module" as recited in the claim.

C.   "data packet module"

Plaintiff's construction	Groupon's construction
A module, i.e., part or section of a computer program that constructs information in a predefined format	Subject to 35 U.S.C. § 112(6)

Function: "constructing a data packet comprising said user data and location information" (as recited in '023 patent, claim 2, at col. 34:62-63)

Corresponding structure: undisclosed (indefinite) |

The "data packet module" appears in claim 2 of the '023 patent. Claim 2 further recites

the functionality of this data packet module: "constructing a data packet comprising said user

data and location information." As a means-plus-function claim term, the "data packet module"

is indefinite because the '023 patent fails to disclose the corresponding structure, i.e., the

algorithm, for this computer-implemented term.

The term "module" operates as the word "means." *Williamson*, 792 F.3d at 1350-1351.

In addition, the prefix "data packet" does not impart sufficient structure into the term "module"

for performing the recited function. *See id.* at 1349, 1351. Put another way, recitation of a "data

packet" as a prefix to the term "module" does not identify sufficient structure for performing the

recited function of "constructing a data packet comprising said user data and location

information." *See id.*

Plaintiff's proposed construction acknowledges that the "data packet module" is a

computer program. As a means-plus-function term, the corresponding structure is a computer

algorithm. *Id.* at 1352. However, the '023 patent fails to disclose an algorithm for constructing a

data packet:

> A data packet builder and parser module 1504 (hereinafter "data packet module")
> is coupled to the U/I module 1506. ***The data packet module 1504 is used to***
> ***construct data packets***, which are stored on the local storage device 1408. These
> data packets are subsequently read by the server 1510 and used to formulate on-

> line database queries. The data packet module also parses data packets received
> from the server 1510. Details and examples of data packet contents are described
> below.

'023 patent at 27:3-10; Fig. 15 ("DATA PACKET BUILDER AND PARCER" 1504). Although

examples of data packet contents are further described in the specification, the specification fails

to describe an algorithm for building the data packets:

> Next, In step 1904, the data packet module 1504 builds the data packet 1708. The
> data packet 1708 is then stored on the local storage device 1408. Next, as
> indicated by step 1906, the data packet 1708 is transmitted to the server 1314.

Id. at 31:18-21; Fig. 17 ("DATA PACKET" 1708); Fig. 19 (1708).

The specification's description of the result – the data packet structure itself – is not a

description of the algorithm for building the data packet. *See Williamson*, 792 F.3d at 1352-1353

("Williamson argues that the 'distributed learning control module' controls communications

among the various computer systems and that the 'coordinating' function provides a presenter

with streaming media selection functionality. These disclosures, however, are merely functions

of the 'distributed learning control module.' The specification does not set forth an algorithm for

performing the claimed functions."). As the Federal Circuit held in a similar case, disclosing the

inputs or outputs of an algorithm is not a disclosure of the algorithm itself:

> We affirm the district court's conclusion of indefiniteness because the '691 patent
> does not disclose any algorithm for assembling the second computer readable
> code module. Figure 5 and its accompanying text describe a process for
> providing a service response, not for assembling the second code module. The
> Figure 5 process includes a single step 238 labeled '[a]ssemble second code
> module,' but this merely restates the recited function. The portion of the
> specification describing this step explains that 'code assembler instructions' do
> the assembling. ***It discloses inputs to and outputs from the code assembler
> instructions, but does not include any algorithm for how the second code
> module is actually assembled***. Simply disclosing a black box that performs the
> recited function is not a sufficient explanation of the algorithm required to render
> the means-plus-function term definite.

Augme Techs., Inc. v. Yahoo! Inc., 755 F.3d 1326, 1337-1338 (Fed. Cir. 2014) (emphasis added);

see also Ibormeith IP, LLC v. Mercedes-Benz USA, LLC, 732 F.3d 1376, 1382 (Fed. Cir. 2013)

("Table 10 merely lists inputs without specifying any single formula or function or algorithm

defining the contribution of any of the inputs to a computation. As recognized by Mercedes's

expert Dr. Knipling, a person of ordinary skill in the art 'would need to devise his or her own

method for determining driver drowsiness based on the factors generally disclosed in Tables 10,

11 and 12 … A description of an algorithm that places no limitations on how values are

calculated, combined, or weighted is insufficient to make the bounds of the claim

understandable.'").

The fact that a person of ordinary skill in the art would know how to generate an

algorithm to construct a data packet is of no moment. *See Aristocrat Techs. Austl. PTY Ltd. v.*

Int'l Game Tech., 521 F.3d 1328, 1337 (Fed. Cir. 2008) ("It is certainly true that the sufficiency

of the disclosure of algorithmic structure must be judged in light of what one of ordinary skill in

the art would understand the disclosure to impart. That principle, however, has no application

here, because in this case there was no algorithm at all disclosed in the specification."). In

Blackboard Inc. v. Desire2Learn Inc., 574 F.3d 1371, 1384-1385 (Fed. Cir. 2009), the Federal

Circuit rejected a similar argument:

> Blackboard argues that the process of putting together control lists through
> software is well known to a person of ordinary skill in the art because access
> control lists 'have been around for a long time and everyone of ordinary skill in
> the field of this invention would know how to construct one given the
> understanding conveyed in the specification about the entry of files into the
> system, and which roles have access to which types of files.' … The question
> before us is whether the specification contains a sufficiently precise description of
> the 'corresponding structure' to satisfy section 112, paragraph 6, not whether a
> person of skill in the art could devise some means to carry out the recited
> function.

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Id. at 1385 ("By failing to describe the means by which the access control manager will create an access control list, Blackboard has attempted to capture any possible means for achieving that end. Section 112, paragraph 6, is intended to prevent such pure functional claiming."). The specification's failure to disclose the corresponding algorithm for constructing a data packet renders the claim term "data packet module" indefinite and therefore renders claim 2 of the '023 patent invalid on the same basis.

IV.   CONCLUSION

For the foregoing reasons, Groupon respectfully requests consideration of this amicus claim construction brief and treatment of the three disputed claim terms as described above.

Respectfully submitted,

/s/ Natalie A. Bennett
Christopher D. Bright
MCDERMOTT WILL & EMERY LLP
4 Park Plaza, Suite 1700
Irvine, California 92614
(949) 851-0633

Michael S. Nadel
Natalie A. Bennett
MCDERMOTT WILL & EMERY LLP
500 North Capitol Street, N.W.
Washington, D.C. 20001
(202) 756-8000

Attorneys for Amicus
Groupon, Inc.

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record, who are deemed to have consented to electronic service are being served this January 12, 2016, with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

/s/ Natalie A. Bennett

Natalie A. Bennett

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